Issue 5

January 2005

Environmental Public Health Tracking Program
Utah Department of Health

UTAH DEPARTMENT OF HEALTH

Utah's EPHTP Newsletter

Update: EPHTP Pilot Projects

Environmental Exposures and Birth Defects in Utah

The EPHTP continues to work with the Utah Birth Defect Network (UBDN) to build the capacity to investigate whether environmental factors are associated with birth defects causation. The goals for this project are to establish a permanent relationship with the UBDN and develop a set of semi-automated analytical tools that can be shared for data analysis. The model for this pilot project will bring in Utah Birth Defects Data and Utah Births Data (Vital Records Data) and try to relate those to Environmental Hazardous Emissions Sites. The results will be analyzed using basic spatial analysis.

The first phase of this pilot project has been geocoding all birth defect cases and analyze predominant birth defect classes for spatial and temporal variances. EPHTP staff have geocoded over 5,000 birth defects records from the time period of 1997-2002. EPHTP staff are currently in the process of geocoding the vital records birth data, which contains 550,000 records. EPHTP staff will then look at ecologic risk factors that are available such as the age of the house or education levels. A comparison of all birth defect cases will be done to look for hot spots inside census track or census blocks, and calculate the rates and compare the rate ratios.

The next steps of the pilot project include: developing denominator data, getting data off of census records and developing a couple of tools that will be used for spatial analysis. EPHTP staff will look at clefts, since the UBDN has been collecting data on clefts since 1995. The birth defects registry staff will screen through cases that are appropriate to include in this study. Those with known causes such as genetic cases will not be included in the study.

Each of the pilot projects will provide EPHTP staff with additional skills, lessons learned, and experiences to be used in the development of future linkage projects.

Inside this issue:

Meetings and Dates:

- *Technical Workgroup Meeting*
  January 20, 2005 11:00-1:00
  UDOH, Room 201
- *Planning Consortium*
  January 25, 2005 10:00-12:00
  UDOH, Room 114
- *Policy Workgroup Meeting*
  January 25, 2005 12:30-2:30
  UDOH, Room 215

Cancer Incidence Query Module

Currently, the health department response to cancer-related calls from concerned citizens is time-consuming and laborious; information from the caller needs to be collected, cancer and environmental monitoring data need to be obtained, and health education materials need to be prepared.

The EPHTP is improving the quality and timeliness of responses to cancer-related calls from concerned citizens, by partnering with Indicator Based Information System for Public Health (IBIS-PH). IBIS-PH is a web-based system for disseminating public health information within a context that improves understanding of the information. IBIS-PH received funding from the Utah EPHTP to design, implement, test and deploy a web-based data query tool that will allow local and state health officials to obtain statistics on the spatial distribution of excess morbidity due to cancer incidence.

The IBIS interface will look at Cancer Incidence at the census tract level. The Cancer Incidence Query interface will be a secure web-based query tool for public health officials to obtain statistics on spatial distribution of cancer cases. This tool will allow users to tabulate cancer incidence data for small geographies, tabulate, age-adjusted rates. Areas with higher-than-expected cancer morbidity across multiple time periods will be flagged. Contextual information will be included to help users interpret the results of their data queries. For more information about IBIS-PH, go to www.ibis.health.utah.gov.

...improving the quality and timeliness of responses to cancer-related calls from concerned citizens...

Check out the EPHTP Web board for updates, documents, news, and trainings.
https://ephtp.intranets.com
If you have not yet received a user name and password contact Gambrelli.

Follow-up investigation of Cancer and Ground Water Contamination in Sunset and Clinton

The Sunset/Clinton Cancer study is a follow-up study on cancer cases possibly related to exposure to contaminants in ground water. The goals of this follow-up study are to expand the original study by using different methods and by using new technology. EPHTP staff have met and are collaborating with the Utah Department of Environmental Quality (UDEQ), the Hill Air Force Base Restoration Advisory Board, the Resource for Genetic and Epidemiologic Research (RGE), and the Imperial College of London on this project.

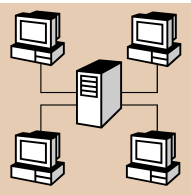
The goals of this pilot project are to expand the study itself by using different methodology and to incorporate new technology.

EPHTP staff is geocoding all of Utah's cancer cases from the Utah Cancer registry. Hill Air Force Base and UDEQ are providing information about the plume and agreements have been made to get residential history data from RGE. The EPHTP staff will map the locations using the geocoded data.

The EPHTP will obtain the Rapid Inquiry Facility (RIF), a disease- and exposure-mapping tool developed by the Imperial College of London, which will help statistically smooth the area disease and exposure rates. For more information on RIF, see Utah EPHTP Newsletter Issue 3 or visit www.euroheis.org.

Next steps include completing the geocoding of Utah's cancer cases, obtaining the tenure and familial risk data from RGE and then providing the data to the Imperial College of London for spatial analysis and modeling. To learn more about RGE, visit www.research.utah.edu/rge.

Update:
Utah Technical Workgroup



The UTW has been working on the Workgroups Year 2 activities. Firstly, the workgroup identified the technical standards that impact building the EPHT Network, such as Public Health Information Network (PHIN), Health Level Seven (HL 7), and extensible Markup Language (XML), etc. Secondly, the workgroup discussed the data systems that are related to the Utah EPHT Network. There are four systems discussed in the group: Utah Cancer Registry, Utah Vital Record Data System, Department of Air Quality Monitoring Database, Safe Drinking Water Information System, and Ambient Water Monitoring System.

The information gained from the data systems helps define mechanisms of integrating, exchanging and linking environmental and health data. The workgroup also focused on the design logic of the existing data models such as CDC's Public Health Conceptual Data Model (PHCDM), which is foundation of the National Electronic Disease Surveillance System (NEDSS) data model, Indicator Based Information System for Public Health (IBIS-PH) data model, and the data model used by Utah Node that is part of the EPA Environmental Information Exchange Network. The existing data models can help develop the Utah EPHT Network data architecture. Lastly, the workgroup discussed the data model design logic of the Utah EPHT Integrated Data Repository (IDR) that is one component of the Utah EPHT Network. For the next meeting, the workgroup will finalize the next year UTW workplan and discuss the development plan of the data system used for the Biomonitoring Program.

For more information contact Mei Xue, EPHTP IT Analyst, at (801) 538-6191 or email: mxue@utah.gov.

Next meeting

January 20, 2005

11:00-1:00

UDOH, Room 201

ENVIRONMENTAL HEALTH PERSPECTIVES JOURNAL HAS ISSUED A MINI-MONOGRAPH ON ENVIRONMENTAL PUBIC HEALTH TRACKING. THE MONOGRAPH INCLUDES A COLLECTION OF ARTICLES AROUND THE NATIONAL ENVIRONMENTAL PUBLIC HEALTH TRACKING PROGRAM. YOU CAN FIND THE MINI-MONOGRAPH AT HTTP://EHP.NIEHS.NIH.GOV/DOCS/ADMIN/MINIMONO.HTML.

Utah Policy Workgroup

The UPW has defined the various classes of EPHTP users. The workgroup is currently developing the policies and procedures for an advisory board for the EPHTP. The group is calling the board the Environmental Review Board (ERB). The draft mission of the ERB is to review and approve the release of data. The workgroup is in the process of developing the purposes and process for the following topics: approval summary, scientific output, data requests and published guidelines. The workgroup will continue to populate the process of the ERB at the next UPW meeting.

For more information contact Kori Gunn, EPHTP Community Health Specialist, at (801) 538-6191 or email: kgunn@utah.gov.

Next meeting

January 25, 2005

12:30-2:30

UDOH, Room 215

National EPHT network News

The CDC has formed workgroups to engage in issues common to all EPHT granteesand to ensure network development coincides with the vision and goals of the national EPHT initiative. The workgroup members consist of representatives from the CDC and each of the participating states, cities, and schools of public health. Following are updates from the Utah representatives on each of the workgroups:

Program Marketing and Outreach Workgroup (Utah representative: Kori Gunn)

The program marketing and outreach workgroup is to assist CDC and EPHT grantees in development and implementation of a program marketing and outreach strategy. The program marketing and outreach workgroup develops appropriate education and outreach materials that emphasize and support the goals, objectives, and timely promotion of the national EPHTP effort. The program marketing and outreach workgroup identifies target audiences for the EPHTP. Members in the workgroup divided into teams to develop specific messages for high priority audiences. The audience teams include; advocacy/legislator, agency, media, and professional associations. The workgroups will identify distribution channels, activities, and outreach strategies for promoting program information.

The next steps for the Program Marketing and Outreach will be to produce a one page case study on each of the grantees, summary of the PEW commission report, and a summary of the California Bill SB702.

Standards and Network Development Workgroup (Utah representative: Mei Xue)

The Standards and Network Development (SND) Workgroup has been focusing on the Workgroup products. The SND Workgroup worked with its contractor, Science Applications International Corporation (SAIC), to develop the EPHT Network Vision Document. The Vision document is designed to 1) describe, at a conceptual level, the function and purpose of the EPHT Network, 2) provide a profile of the stakeholders and users of the Network, and 3) outline the major features of the EPHT Network. This Vision will be a solid basis for future EPHT Network development. SND Vision document can be found at www.cdc.gov/nceh/tracking/EPHTN.pdf. The SND Workgroup also developed the following products: 1) EPHT Network Technical Glossary, 2) EPHT Network Principles, which are tested to withstand scrutiny and become recommendations when completed, 3) High-level overview of the EPHT Network and partner Networks, 4) Geo Primer for EPHT, 5) Trading Partner Agreement Template, and 6) Metadata Recommendation and Template.

Products for Technology Group (Utah Representative: Mei Xue)

University of California at Berkley (UCB) organized the Products for Technology Group for the Western state grantees in the Environmental Public Health Tracking Program. Since the EPHT Network is to be compliant with the Public Health Information Network (PHIN), the Group has been focusing on the products that are related to the PHIN. One topic has been discussed is the Vocabulary Services (VS) to be used under PHIN. The VS incorporate terms that are used for searching for information. CDC is using a product called Apelon, which produces a "knowledge management product," to define VS under PHIN. Apelon provides terminology products and services that help healthcare enterprises create, maintain, and use standardized healthcare terminology. The Group also decided to invite PHIN Architects to talk about how PHIN is being developed and what technologies are being included.

Save the Date for the National Environmental Public Health Tracking Conference in Atlanta, GA, April 20-22, 2005!
For more information, download the save the date postcard www.cdc.gov/nceh/tracking/savedate.pdf or e-mail EPHT@cdc.gov

Literature Review

Tracking Pediatric Asthma: The Massachusetts Experience Using School Health Records

Robert S. Knorr, Suzanne K. Condon, Frances M. Dwyer, and Danielle F. Hoffman Massachusetts Department of Public Health, Center for Environmental Health, Boston, Massachusetts, USA

Abstract

The Massachusetts Department of Public Health, in collaboration with the U.S. Centers for Disease Control and Prevention Environmental Public Health Tracking Program, initiated a 3-year statewide project for the routine surveillance of asthma in children using school health records as the primary data source. School district nurse leaders received electronic data reporting forms requesting the number of children with asthma by grade and gender for schools serving grades kindergarten (K) through 8. Verification efforts from an earlier community-level study comparing a select number of school health records with primary care provider records demonstrated a high level of agreement (i.e., > 95%). First-year surveillance targeted approximately one-half (n = 958 schools) of all Massachusetts's K-8 schools. About 78% of targeted school districts participated, and 70% of the targeted schools submitted complete asthma data. School nurse-reported asthma prevalence was as high as 30.8% for schools, with a mean of 9.2%. School-based asthma surveillance has been demonstrated to be a reliable and cost-effective method of tracking disease through use of an existing and enhanced reporting structure.

Environmental Health Perspectives 112: 1424-1427 (2004). [Online 3 August 2004, www.ehp.niehs.nih.gov].

Developing a Comprehensive Pesticide Health Effects Tracking System for an Urban Setting: New York City's Approach

Daniel E. Kass, Audrey L. Thier, Jessica Leighton, James E. Cone, and Nancy L. Jeffery New York City Department of Health and Mental Hygiene, Bureau of Environmental Disease Prevention, New York, New York,; Consultant, Williamstown, Massachusetts

Abstract

In recent years, there have been substantial investments and improvements in federal and state surveillance systems to track the health effects from pesticide exposure. These surveillance systems help to identify risk factors for occupational exposure to pesticides, patterns in poisonings, clusters of disease, and populations at risk of exposure from pesticide use. Data from pesticide use registries and recent epidemiologic evidence pointing to health risks from urban residential pesticide use make a strong case for understanding better the sale, application, and use of pesticides in cities. In this article, we describe plans for the development of a pesticide tracking system for New York City that will help to elucidate where and why pesticides are used, potential risks to varied populations, and the health consequences of their use. The results of an inventory of data sources are presented along with a description of their relevance to pesticide tracking. We also discuss practical, logistical, and methodologic difficulties of linking multiple secondary data sources with different levels of person, place, and time descriptors. *Environmental Health Perspectives* 112:1419-1423 (2004). [Online 3 August 2004, www.ehp.niehs.nih.gov].

Poster Abstract from EPHT Workshop, October 2004

Epidemiology and Linking of Oral/Facial Clefts and Environmental Hazards, Oklahoma, 1994-2002

Authors: Elizabeth Kruger, MPH; Hub Baggett; Kay Pearson; Monty Elder

Background: Both genetic and environmental factors, or interactions between genes and the environment have been linked to oral/facial clefts. Birth control/hormonal medications, maternal diabetes, maternal alcohol/tobacco lifestyle, glycol ethers, pesticides, dioxins, solvents, chlorinated products, and heavy metals have been associated with oral/facial clefts. Approximately one in every 700-1000 newborns is diagnosed with oral/facial clefts.

Objective: To determine relationships between oral/facial clefts and environmental hazards.

Methods: Data for this project was gathered for the Oklahoma Public Health Environmental Tracking System (OK-PHETS), a joint project between the Oklahoma State Department of Health (OSDH) and the Oklahoma Department of Environmental Quality (DEQ). Denominator data was obtained from OSDH Vital Records. Oral/facial cleft data from OSDH-Birth Defects Registry, and environmental hazards data from DEQ were compiled, mapped, and statistically analyzed. SatScan's spatial cluster analysis, binomial confidence interval testing/Chi-Square test, and multiple regression analysis were conducted at both county and zip code levels to determine relationships between oral/facial clefts and selected environmental chemicals from DEQ data.

Results: As in previous studies, oral/facial clefts were more frequent in Caucasians than in African American. Oral/facial clefts were more frequent among infant of mothers with tobacco or alcohol use during pregnancy. Visual and SatScan statistical analyses of county and zip rates showed potential clustering of cases in Southeast (SE) Oklahoma. Regression analysis on county and zip code oral cleft rates using specific chemicals from DEQ's Air Emission, or Toxic Release Inventory sites revealed no significant relationships between oral/facial clefts and environmental hazards studied.

Conclusions: Oral/facial cleft occurrences seemed to cluster in SE Oklahoma. Maternal alcohol and tobacco use during pregnancy increased the risk of oral/facial cleft rates.

Evaluation: In addition to county and zip code level, case level analyses should be done. Spatial and statistical analyses also need to be fine tuned to control for genetic factors. Water quality data needs to be included in future analysis.

In the next EPHTP Newsletter:

1. *Updates from the Technical and Policy Workgroups meetings.*
2. *Updates from the Planning Consortium Meeting.*
3. *Updates on pilot projects*
4. *Literature Review*

Utah Department of Health

Utah Department of Health
Office of Epidemiology
Environmental Epidemiology Program
P.O. Box 142104
Salt Lake City, Utah 84114-2104
801-538-6191
Fax: 801-538-6564
www.health.utah.gov/els/epidemiology/envepi/activities/ephtp.htm

Contacts:

Wayne Ball, Principal Investigator
wball@utah.gov

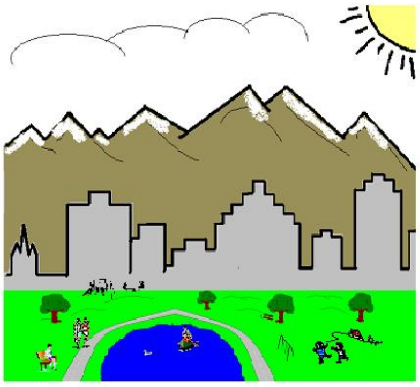
Gambrelli Layco, EPHTP Project Manager
glayco@utah.gov

Mei Xue, Information Technology Programmer
mxue@utah.gov

Sam LeFevre, Research Associate
slefevre@utah.gov

Kori Gunn, Community Health Specialist
kgunn@utah.gov

Sharon Ball, Office Specialist
smball@utah.gov



Environmental Public Health Tracking Program
Utah Department of Health

2005 EPHTP Planning Consortium Meetings
10:00-12:00 AM
Cannon Health Building 288 North 1460 West, Room 114

- January 25
- April 20
- July 20
- October 19